$REPORT\_DATE

$COMPANY\_NAME

$COMPANY\_ADDRESS

$COMPANY\_CITY, $COMPANY\_PROVINCE

$COMPANY\_POSTAL\_CODE

**Attention: $CLIENT\_NAME**

**Re: Results of Paint Chip Sample Analysis for Determination of Lead Content**

**Safetech Project No.: $PROJECT\_NUMBER**

**$PROJECT\_ADDRESS**

1.0 BACKGROUND

On $SAMPLING\_DATE, Safetech Environmental Limited (Safetech) received one (1) PAINTCHIP\_SAMPLES from $PROJECT\_ADDRESS. The SAMPLES was/were delivered to Safetech’s Mississauga office, collected by $COMPANY\_NAME (the Client). The SAMPLES was/were then submitted to an independent laboratory for the determination of lead content.

2.0 REGULATIONS AND GUIDELINES

In Ontario, worker exposure to airborne lead is regulated under Ontario Regulation 490/09: *Designated Substances* (O. Reg. 490/09) and R.R.O. 1990, Regulation 833: *Control of Exposure to Biological or Chemical Agents* (Reg. 833), both made under the Occupational Health and Safety Act. Ontario Regulation 490/09 does not apply at a project to an employee who engages in construction; however, Reg. 833 applies to other workplaces not subject to O. Reg. 490/09. Under Reg. 833, every employer is required to take all measures reasonably necessary in the circumstances to protect workers from exposure to lead, where their exposure shall not exceed the 8-hour time-weighted average (TWA) of 0.05 mg/m3 (50 µg/m3)

To protect workers from exposure to lead on construction projects and during renovation, maintenance or repair activities that may disturb lead, the Ontario Ministry of Labour (MOL)[[1]](#footnote-1) and the Environmental Abatement Council of Ontario (EACO)[[2]](#footnote-2) have each published lead guidelines. These guidelines are similar in that the protective measures recommended (i.e., engineering controls, work practices, hygiene practices and protective clothing and equipment) are divided into three general categories (i.e., Type 1, 2 and 3 Operations and Class 1, 2 and 3 Operations in the MOL and EACO guidelines respectively) depending on the type of work being performed, with the intent of protecting workers from being exposed above the TWA for lead.

The MOL guideline does not make a distinction with respect to the quantity of lead in paints and surface coating that would be considered a hazard and therefore essentially this guideline would be applicable to any paint or surface coating containing lead. However, the EACO guideline recognizes that airborne exposure hazards created by the disturbance of paints and surface coatings containing lead not only depends on how the material is being disturbed but also on the concentration of lead in the material. As per the EACO guideline, paints and surface coatings containing lead are defined as follows:

* Low-level lead paints or surface coatings: ≤0.1% lead by weight
* Lead-containing paints or surface coatings: >0.1% but <0.5% lead by weight
* Lead-based paints or surface coatings: ≥0.5% lead by weight

As per the EACO guideline, low-level lead paints and surface coatings are considered to have a “De Minimis”, or virtually safe level of lead of less than or equal to 0.1% by weight; where worker protection from inhalation of lead is not required as long as the material is disturbed in a non-aggressive manner and work is performed using normal dust control procedures to limit airborne particulate concentrations below 10 mg/m3 (10,000 µg/m3). Under the EACO guideline, tasks performed that disturb lead-containing or lead-based paints and surface coatings should follow the protective measures outlined in the Classification of Work Operations and corresponding procedures.

Management of waste containing lead is governed by R.R.O. 1990, Regulation 347: *General – Waste Management*, made under the Environmental Protection Act. Debris created by removal of paints and surface coatings may be subject to the testing and disposal requirements of this regulation.

3.0 ANALYTICAL METHODOLOGY

Analysis for lead content was performed by an independent third party laboratory that participates in and is accredited by the EPA (U.S. Environmental Protection Agency) for analysis of lead in paint chips through the American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP).

Analysis was conducted following the EPA “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846), Method 7000B “Flame Atomic Absorption Spectrophotometry”. Results of analysis are reported by the laboratory as the percentage of lead in the sample (% by wt.).

4.0 RESULTS

Results of analysis for the determination of lead content are summarized in Table 1. The Laboratory Certificate of Analysis is attached.

**TABLE 1**

**Analytical Results for Determination of Lead Content**

**$PROJECT\_ADDRESS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample**  **No.** | **Sample Description** | **Colour** | **Lead Concentration**  **(% by weight)** |

5.0 CONCLUSIONS AND RECOMMENDATIONS

$CONCLUSIONS. For low-level lead paints/surface coatings, respirator protection for workers is not considered necessary as long as the material is disturbed in a non-aggressive manner and work is performed using normal dust control procedures to limit airborne particulate concentrations below 10 mg/m3. Any disturbance of lead-containing and lead-based paints/surface coatings should be conducted following the Type/Class of operations outlined in the MOL and EACO guidelines respectively to determine the proper control measures necessary to conduct the work in a manner that will prevent worker overexposure to lead. Alternatively, a hygiene or exposure assessment can be performed to measure airborne lead levels during work operations to determine the appropriate control measures necessary.

Waste containing lead should be handled and disposed of according to R.R.O. 1990, Regulation 347. Under this regulation (and depending on the quantity of waste generated) the waste may be subject to analysis following the Toxicity Characteristic Leaching Procedure (TCLP) to determine if it is a “leachate toxic waste” based on the leachate quality criteria provided in Schedule 4 of the regulation. Such wastes must meet specific treatment requirements (Schedule 5) or undergo alternative treatment for hazardous debris (Schedule 8) prior to land disposal.

6.0 LIMITATIONS

In preparing this report, Safetech relied on information supplied by others, including independent laboratories and testing services. Conclusions made in this report are based on the laboratory analytical results for the samples analyzed. Except as expressly set-out in this report, Safetech has not made any independent verification of such information.

This report has been prepared for the sole use of the person or entity to who it is addressed. No other person or entity is entitled to use or rely upon this report without the express written consent of Safetech Environmental Limited and the person or entity to who it is addressed. Any use that a third party makes of this report, or any reliance based on conclusions and recommendations made, are the responsibility of such third parties. Safetech accepts no responsibility for damages suffered by third parties as a result of actions based on this report.

Please contact our office should you have any questions regarding this report.

Sincerely,

**SAFETECH ENVIRONMENTAL LIMITED**

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**Winston Lew, P. Eng.**

Technical Advisor

*Attachment(s): Laboratory Certificate of Analysis*

1. Ontario Ministry of Labour, Occupational Health and Safety Branch: *Guideline – Lead on Construction Projects* (revised April 2011). [↑](#footnote-ref-1)
2. Environmental Abatement Council of Ontario: *EACO Lead Guideline for Construction, Renovation, Maintenance or Repair* (October 2014). [↑](#footnote-ref-2)